AUGUST 20, 2010
VOL. LXII, NO. 17
*The Second Best Thing About Payday*

# nih record


**ABOVE** • *Feds Feed Families campaign comes to a close this month. See p. 3 for details on last "Fill the Trucks" day.*

## features



## departments





*Can We Get a Gold in Green?*

## Final Part of Bldg. 35, 'Porter II' Nears Groundbreaking

*By Carla Garnett*

Construction is nearly set to begin on the second phase of NIH's on-campus neuroscience facility, the Porter Neuroscience Research Center. PNRC II, construction of which was made possible by American Recovery and Reinvestment Act (ARRA) funds NIH received in 2009, is currently in a site-preparation phase that includes awarding of various building contracts. Groundbreaking could begin as soon as late summer or early fall this year.

*Construction is nearly set to begin on Porter II.*

Initially, Porter II was going to cost about $266 million of the total $500 million in ARRA funds that NIH was allotted for buildings and facilities. Several months ago, however, NIH received word that construction bids were coming in significantly lower than previously estimated.

SEE **PORTER II,** PAGE 6

### Harvard's Daley Updates NIH on iPS Cells

*By Rich McManus*

There are probably only a handful of scientists whose visit to campus in the arid offseason of the Wednesday Afternoon Lecture Series, which normally takes July and August off, could draw a crowd. Harvard stem cell research authority Dr. George Q. Daley is one of them.

The WALS folks dreamed up a midsummer, Monday afternoon version of the lecture on July 26 and, by 3 p.m., Masur Auditorium was packed with curious summer interns and a modest legion of tenured investigators who were either back from, or had not yet gone on, vacation.

Daley, a professor of hematology and director of the stem cell transplantation program at Children's Hospital Boston, did not disappoint. His résumé alone pointed to a man who could speak authoritatively about the future of 21st century medicine: *summa cum laude* graduate of Harvard Medical School (only the 12th person to win that honor, in 1991), graduate work

SEE **DALEY,** PAGE 4

### Guttmacher Appointed Director Of NICHD

Dr. Alan E. Guttmacher has been named as the seventh director of the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development.

"As a pediatrician, geneticist and highly regarded leader at NIH over the last decade, Alan has the experience and the vision to lead the NICHD during what promises to be the most exciting time for science as well as for women's and children's health," said NIH director Dr. Francis Collins, who made the appointment.

"The NICHD's research encompasses the life span," Guttmacher said. "Its mission includes ensuring that every person is born healthy and wanted, that all children have the chance to achieve their full potential for healthy and

SEE **GUTTMACHER,** PAGE 8


The **NIH Record** is published biweekly at Bethesda, MD by the Editorial Operations Branch, Office of Communications and Public Liaison, for the information of employees of the National Institutes of Health, Department of Health and Human Services. The content is reprintable without permission. Pictures may be available upon request. Use of funds for printing this periodical has been approved by the director of the Office of Management and Budget through September 30, 2010.

To receive alerts to our latest issue, send an email to listserv@list.nih.gov with the words "Subscribe NIHRECORD" in the message body.

**NIH Record Office** Bldg. 31, Rm. 5B41
**Phone** (301) 496-2125 **Fax** (301) 402-1485

**Web address** http://nihrecord.od.nih.gov

**Editor**
Richard McManus
*Rich.McManus@nih.gov*

**Assistant Editor**
Carla Garnett
*Carla.Garnett@nih.gov*

**Staff Writers**
Jan Ehrman
*Jan.Ehrman@nih.gov*

Valerie Lambros
*Valerie.Lambros@nih.gov*

The **NIH Record** reserves the right to make corrections, changes or deletions in submitted copy in conformity with the policies of the paper and HHS.



# briefs

### NIH Named Top Supporter of HBCUs

The National Institutes of Health was recently named one of the 2010 Top Supporters of Historically Black Colleges and Universities (HBCU). NIH was selected for this recognition based on a survey completed by the deans of 14 HBCU engineering programs, minority-serving institutions and the corporate-academic alliance Advancing Minorities' Interest in Engineering. The institutions invited to participate in the survey were: Alabama A&M University, Florida A&M University, Hampton University, Howard University, Jackson State University, Morgan State University, Norfolk State University, North Carolina A&T State University, Prairie View State University, Southern University A&M, Tennessee State University, Tuskegee University, Virginia State University and the University of the District of Columbia.

### Principles of Clinical Research Class

Registration for the 2010-2011 "Introduction to the Principles and Practice of Clinical Research" is now open. The course will run from Oct. 18 through Mar. 9, 2011. The deadline for registering is Oct. 8. Classes will be held on campus on Monday and Tuesday evenings from 5 to 6:30. There is no charge for the course but purchase of a textbook is suggested. A certificate will be awarded upon successful completion of the course, including a final exam. For more information or to register, visit www.cc.nih.gov/training/training/ippcr/application.html or call (301) 496-9425.

### FAES Offers Course in 'Art Songs'

The class "Art Songs: Chamber Music with Words" will be co-presented this fall by the FAES Graduate School and Strathmore. The course will explore art songs as chamber music for voice and piano, covering European and American repertoire from the classical period to the 20th century. In each session, the songs will be performed live in the original languages, both as examples during the lecture and as an uninterrupted performance following the lecture. Lectures will discuss the lives and times of the composers and poets, as well as the particular songs. For questions about course content, call Suzanne Epstein at (301) 897-5463 or email epsteinsue@gmail.com. For registration and further information, call FAES at (301) 496-7976 or visit www.faes.org.

### FAES Grad School Open House, Aug. 23

The fall 2010 semester FAES Graduate School Open House will be held on Monday, Aug. 23 from 4 to 7 p.m. at the FAES Social and Academic Center, 9101 Old Georgetown Rd. (across from the fire station). Raffles will be drawn for FAES Bookstore gift certificate, Visa gift cards and 5 lucky students will receive a 10 percent discount on tuition. Refreshments will be served and registration for the fall 2010 semester will be accepted.

Walk-in registration will be accepted Aug. 25-Sept. 3 from 10 a.m. to 4 p.m. in Bldg. 60 (the Cloister), Rm. 236 & 237 and on Aug. 30 from 5 to 7 p.m. (in addition to 10 a.m.-4 p.m. that day).

### Workshop on Metabolomics Technology Set for Sept. 17, Masur Auditorium

The National Center for Research Resources and the Office of Intramural Research will sponsor a 1-day symposium designed to share the latest advances in metabolomics technologies. "State of Metabolomics Technologies in Translational Research" will be held Friday, Sept. 17 from 8 a.m. to 5 p.m. in Masur Auditorium, Bldg. 10. Submit a poster or register an exhibit by Aug. 27. Space available on a first-come, first-served basis. In addition, limited webcasting slots may be provided for those not able to attend in person. Register for the event by Sept. 2 at www.palladianpartners.com/metabolomicstechnologies/. For more information contact Dr. Padma Maruvada at (301) 435-0784 or maruvadp@mail.nih.gov.

### Minority High School Students Visit NIH

*NIH hosted visits by three groups of minority high school students from all over the country this summer. The Youth Initiative in Biomedical Research included tours of the National Library of Medicine and the Clinical Center, lab visits, workshops on NIH training/internship opportunities and scientific presentations relevant to each group. The program, sponsored by the National Center for Minority Health and Health Disparities, included participants from all of NIH's institutes and centers and the Office of the Director. It focused on three populations: Native Americans (who visited June 24-25), Hispanics (July 12-13) and African Americans (June 21-22). In the photo above, visiting Hispanic students enjoy a tour led by Dr. Robert F. Hoyt, Jr., (l) chief of NHLBI's Laboratory of Animal Medicine and Surgery.*



## NIH'ers Respond Generously to Food, Household Item Campaign

Just for a minute, imagine that you have no food at your house, and it's not by choice. Your children are hungry and you have nothing to feed them. This is the situation many of our metropolitan neighbors face every day, particularly as unemployment remains high and children are home for summer vacation.

For this reason, NIH is working with the Capital Area Food Bank for the second year in a row as part of the government-wide Feds Feed Families campaign to collect canned and boxed food and beverages, as well as needed hygiene products such as soap, toothpaste, tissues and shampoo.

The goal is to collect 13,000 pounds of donations this year, a 2,000-pound increase over last year's NIH goal. The food drive lasts through the end of August.

"The statistics are really surprising," said Tonya Lee, who is coordinating the NIH effort. "Most people, when they think of someone needing to visit a food bank, it's because they're homeless, but that's not the case. Most of the food bank's clients own their own homes but have run into problems. They've lost their jobs, they're close to losing their houses, their kids are home for the summer and aren't able to eat school-provided breakfasts and lunches. It's heartbreaking."

Lee and her colleagues from ORS plan to keep the campaign visible on campus until NIH's Aug. 25 deadline. The final opportunity to "Fill the Truck" will be that morning in front of Bldg. 1 from 7 to 9:30. Drop-off boxes at the 9 locations around campus and 19 off-campus sites will continue to receive donations through the close of business that day.

For a list of needed items, see the Feds Feed Families link at www.ors.od.nih.gov.—**Valerie Lambros**


***Top, l:***
*Tonya Lee of ORS adds another can to a box headed for the Capital Area Food Bank as part of the Feds Feed Families campaign, while co-worker Pam Jenkins holds up one of many signs posted around campus. The campaign lasts at NIH until Aug. 25.*

***Top, r:***
*Woodrow "Spike" Harrison of NIH's Plant Management Team helps a generous NIH employee with her donations while LaTonya Ricks of ORS looks on. Harrison goes around campus several times a week to round up donations to the food bank.*

***Bottom:***
*Lee helps NLM's Sonya Shooshan drop off her donations during a "Fill the Truck" campaign event. Cereal, pasta and canned goods seem to be popular donation items.*

PHOTOS: ERNIE BRANSON, VALERIE LAMBROS

## DALEY

CONTINUED FROM PAGE 1

with Nobel laureate Dr. David Baltimore, HHMI investigator, member of the NIH Director's Pioneer Awards inaugural class in 2004, A-list quote supplier when stem cells are a topic in any major newspaper, among many other honors.

*Harvard's Dr. George Q. Daley said the goal of 21st century medicine "is to be able to harness cells as medicines," but warned that customized, patient-specific stem cells remain a distant therapy at present.*

Daley's talk on induced pluripotent stem (iPS) cells for disease modeling drew a rigorous portrait of a cell type that has drawn intense scientific interest since they were first created 4 years ago. For as much promise as the cells offer, the road to their safe application will be arduous, Daley argued.

Daley said the goal of 21st century medicine "is to be able to harness cells as medicines," but warned that customized, patient-specific stem cells remain a distant therapy at present.

What they do offer now is an alluring opportunity to investigate disease processes at the cellular level.

iPS cells derived from the cells of people with genetic diseases, which can be used for testing and modeling, "allow a fresh approach to time-honored questions," Daley said. In amyotrophic lateral sclerosis, for example, scientists have been able to learn details about what causes the death of motor neuron cells in ALS, thanks to iPS cells. Such work may lead to new drug targets.

Scientists have known for years that Down syndrome has one somewhat beneficial correlate—it appears to confer reduced lifetime incidence of solid tumors. Daley showed how iPS cells are illuminating this protective effect.

In studies of telomerase function, reprogramming via iPS has shown reactivation of the enzyme. Asking themselves whether such revitalization is "an essential feature of reprogramming," Daley's team demonstrated that iPS cells can be made from patients with the disease dyskeratosis congenita, despite the fact that these patients lack normal telomerase enzyme, and that telomeres initially shorten after reprogramming but then mysteriously lengthen; RNA expression gets boosted as well.

Turning to mitochondrial diseases, which result when whole segments of an organism's mitochondrial genome are deleted, Daley showed that iPS cells purge such deletions over time, restoring normality to the cell.

"With these forays into disease biology, we can expect more unanticipated insights," Daley said.

Interested in hematopoietic (blood-cell forming) stem cells, Daley and his team used traditional human embryonic stem cells to study Fanconi's anemia, which he said is difficult to study with iPS cells because the affected cell type is "resistant to reprogramming." Knocking down Fanconi gene expression in human ES cells revealed useful new views of the hematopoietic defects in FA.

Members of his lab also showed that embryonic stem cell lines from embryos affected by Fragile X syndrome behave differently from iPS lines reprogrammed from skin fibroblasts of individuals affected by FX, Daley said.

Regarding when clinical applications may be successful, he cautioned, "There are many issues to solve before any cell therapy [in humans] can be attempted."

Asking whether iPS cells are equivalent to ESC, Daley and his team discovered that the answer, generically, is yes, "but in practice they are really quite different," he said. iPS cells can get "frozen" in intermediate steps as they are cultured and can exhibit "a residual measure of gene expression from donor tissue.

"These cells seem to have a 'memory' of the tissue of origin," Daley continued. About 98 percent of the cells' function seems to be reset, but the 2 percent remaining is a concern, as it does not reset to an ESC-like state.

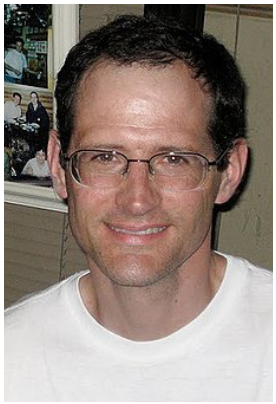
"This is not an indictment of iPS cells," Daley noted, "but a refinement of our understanding."

The residual "memory" can be erased by drugs or by serial passage of the cells from generation to generation, he explained.

"Somatic cell nuclear transplant might be a more ready method to reach pluripotency than iPS," he concluded. "Nuclear transfer may yet teach us important lessons about how to make better iPS cells."

To see the full lecture, visit http://videocast.nih.gov/summary.asp?Live=9447.

## Acquisition Authority, Community Activist Henn Mourned



Carl Henn, 48, NIH Acquisition Career Program manager in the Office of Acquisition and Logistics Management, OD, died July 27 at Washington Hospital Center after injuries sustained during a violent thunderstorm on July 25. He was struck by lightning while attending a picnic at King Farm Park in Rockville.

Born and raised in Ohio, Henn earned a political science/public administration degree from Ohio Northern University and a master's of public administration from American University. He had 23 years experience in federal contracting, 3 with the Navy and 20 with NIH.

"Carl was a wonderful person and truly committed to helping others—at work and in his community," said Diane Frasier, director, OALM. "His contributions to the acquisition community were innumerable. It's very clear that Carl didn't just touch the lives of the people he worked with directly; he had a very long reach—just about anyone Carl met, either through work or in the community, had a very positive experience. Carl's loss will really be felt among his colleagues, friends and, of course, his family."

Henn received the NIH Director's Award, NIH Award of Merit, HHS Exemplary Service Award, numerous performance awards, quality step increases and suggestion awards.

"Carl served as NIH Bicycle Commuter Club president, club cheerleader, club supporter and club conscience for many years," said Angela Atwood-Moore, former NIHBCC president. "If you ever met Carl, you probably never met a nicer guy, and your life was certainly enriched for having known him."

Henn was also an active member of the OD's green committee, according to LaVerne Stringfield, OD executive officer.

In comments to the *Washington Post*, Rockville Mayor Phyllis Marcuccio described Henn as "one of the kindest, gentlest, warmest individuals" and credited him with starting Rockville's community garden program.

Henn lived in Rockville for more than 20 years. He was president of his local civic association, ran for Rockville city council three times and was known as an advocate for eco-friendly sustainable living and for increasing locally based community life.

Henn is survived by his wife, Carol, and daughters, Jessica and Allison.

A memorial service was held July 31 in Rockville; a contingent of bike enthusiasts cycled to the event from NIH. The family requests that memorials take the form of donations to either Bikes for the World (www.bikesfortheworld.org) or the Chesapeake Bay Foundation (www.cbf.org).

## 'Adventure in Science' Program Plans 18th Year

Adventure in Science, a non-profit science education program for children, is planning its 18th year at NIH. The program, which meets on Saturday mornings October through March in Bldg. 10, is designed to show 8- to 11-year-olds the fun of science using hands-on activities, from building and launching model rockets to dissecting frogs. The teachers are mostly volunteers from the NIH staff, from postdocs to institute directors. A similar program for children ages 12 to 15 is available at the National Institute of Standards and Technology in Gaithersburg.

If you are interested in volunteering to teach in the program, contact Peter Kellman (301) 496-2513, kellmanp@nhlbi.nih.gov or Ed Max, (301) 827-1806, edward.max@fda.hhs.gov. If you would like to enroll your child, you can request forms from the 4H office at Montgomery County Cooperative Extension, (301) 590-9638. When the program enrollment is full, applications are accepted for a waiting list.

*Above, Martin Yau (third from l) gets advice from Jacob Yank in a computer programming class. Below, Sayak Maity (l) and Prem Khandge peer at the beating heart of a chick embryo.*

*At left, students (from l) Katie Cannon, Naveen Raman, Elliot Kienzle, David Bleecker and Peter Siegel learn how an internal combustion engine works by "dissecting" a lawn mower motor, led by Ted Cannon.*

PHOTOS: ED MAX

## PORTER II

CONTINUED FROM PAGE 1

***Top**:*
*Construction of the PNRC II structure will complete the Porter Neuroscience Research Center, which was begun in 2001. The new portion's design is set to receive a gold rating for its "green" concepts. The facility is named for John Edward Porter, the former congressman from Illinois who used to chair the House appropriations subcommittee overseeing the NIH budget.*

***Below**:*
*An architect's "fly-through" view of Porter II simulates what you'd see inside the building's north entry on the first floor, looking south into the atrium. The stair goes down to the ground level. The boxes in the center background are meeting rooms, which are cantilevered on the south end of the atrium. To experience the fly-through on your computer, visit this article in the online edition of the* NIH Record, *http://nihrecord.od.nih.gov/.*

Due to the still-sluggish U.S. economy, "construction companies were hungry for business," explained Glen Stonebraker, deputy director for ARRA, Office of Research Facilities. "They were willing to cut profits to get the jobs. Savings from that will allow us to add additional projects to the ARRA program." (See sidebar for details.)

Foremost now in the minds of those leading the Porter II project, however, is how "green" the building can be, according to veteran NIH project manager and architect Frank Kutlak.

"We are on track for gold standard certification by LEED [Leadership in Energy and Environmental Design]," he said. "Labs use about 8 to 10 times as much energy as office buildings. It would be really an exceptional achievement for Porter II to get a gold LEED certification."

The Washington, D.C.-based non-profit U.S. Green Building Council developed the first version of LEED, a building certification system recognized internationally, in 2000. The most current edition of the system consists of six categories: sustainable sites, innovation and design process, water efficiency, energy and atmosphere, materials and resources and indoor environmental quality. Independent review teams grade a building's design in each of the categories and total scores win one of four rating levels: certified, silver, gold or platinum.

Among other green innovations, Porter II will have photovoltaics (solar-powered components) on its roof and geothermal wells underground to remove heat loads from its labs.

"These geothermal wells are closed-circuit loops that will provide supplementary cooling to reduce the building's carbon footprint," Kutlak explained.

Construction safety is another topic ORF is stressing with Porter II. "It's enormously important to ORF. In fact we emphasized it in all of the RFPs [requests for proposals] for this building," Kutlak said. "In addition, Derek Newcomer, the ORF construction safety officer, launched a partnership with [the Occupational Safety and Health Administration] to actively highlight con-

struction safety and to monitor it extensively at this site."

Scientists and research support staff from 7 institutes will share the 5-story Porter II facility, with 3 floors designed as "pure lab space." NINDS, NICHD, NEI, NIDCR, NIBIB, NIDCD and NIMH are slated to occupy the facility, which will constitute about 55 percent of the neuroscience complex.

A basement-level vivarium and ground-level 190-seat conference center are also planned for the building. At completion, PNRC II will contain more than 306,000 gross square feet of space. A central atrium space will connect PNRC II with all levels of Porter I. Once joined, the two phases will be known collectively as Bldg. 35 or the Porter Neuroscience Research Center.

Perkins+Will architects designed PNRC II and will provide architectural construction administration services. Jacobs Project Management Co. will provide construction quality management services. The Whiting-Turner Construction Co. will be the construction manager and build the PNRC II facility. The first phase of the Porter Bldg. was built from 2001 to 2004. Porter II is expected to be completed and open in late 2013.

*A central atrium space will connect PNRC II (l) with all levels of Porter I. The two phases will be known as Bldg. 35.*

## NIH Gets Green Light to Add B&F Projects to ARRA Program

Although it's probably never bad news to hear you're getting more money to spend, it can lead to high anxiety, or at least a sense of urgency—particularly when you have a strict timetable to use the extra funds. That's the fortunate situation ORF Deputy Director for ARRA Glen Stonebraker and his colleagues found themselves in early this spring.

Back in February 2009, when NIH received $500 million of ARRA funds to spend on buildings and facilities, the agency was well prepared. Its list of top priorities was "shovel-ready" and raring to go. Porter II, renovation of the deteriorating parts of Bldg. 10, a makeover for Bldg. 3 and several other items were high on the list.

Then, due to a weak economy, construction companies began submitting significantly lower bids on the projects. Costs were not going to be as high as anyone planned. Usually that's good news, right?

With ARRA funding, however, the financial boost comes with an ultra-tight deadline: Account for and spend all the extra money by Sept. 30, 2010, or give it back. That meant if Porter II was not going to require all of its allotted $266 million by the deadline, NIH was going to lose whatever was left over—unless the agency could get the go-ahead to fund the next projects on its B&F wish list.

"In the methodical way of government checks and balances, the approval process didn't happen overnight," Stonebraker said, "but the end result was gratifying. All of NIH's proposed additional ARRA projects were approved."

*Thanks to ARRA funds, the Porter Neuroscience Research Center can now be completed. Groundbreaking is due by early fall.*

The most noteworthy of the additional projects are:

- **Bldg. 10 F Wing phase A**
- **West Utility Tunnel** increases the size and capacity of the chilled water and steam distribution systems to support future renovations in the F and distal wings of Bldg. 10.
- **Bldg. 12 Center for Information Technology phase 3** is the final phase of a project to ensure reliability of the NIH Data Center, which supports critical, enterprise-wide applications.
- **Bldg. 4 renovation** addresses the first and second floors of Bldg. 4, totaling 28,300 gross square feet, to replace obsolete laboratories and to improve aging building systems.
- **Replace air-handling units** serving critical functions in the ACRF; these have been experiencing an increasing frequency of breakdowns and associated maintenance and repair.
- **Replace steam line manhole no. 69** due to mechanical and structural deterioration.
- **Bldg. 60 chilled water and steam project** to improve the reliability of heating and cooling in the Cloister (Bldg 60).
- **Repair roofs** of multiple buildings.

## GUTTMACHER

CONTINUED FROM PAGE 1

productive lives, that couples are able to achieve the family size they desire, that childbearing is safe for all women and that optimal rehabilitation [from injury or disease] is available to all who need it."

Guttmacher joined NICHD as its acting director in December 2009. Previously, he served as acting director of NHGRI, beginning in 2008, after serving as NHGRI deputy director since 2002.

As NICHD acting director, he began the process of developing a scientific vision for the institute. The process seeks to identify the most promising scientific opportunities across the institute's mission in the coming decade. It is not intended as a review of NICHD's current programs, but a means to identify those areas with the greatest potential for scientific progress and improving public health.

"Rather than building incrementally on current research portfolios, the process will help us identify those areas having the greatest potential in the decade ahead," Guttmacher said.

To develop the plan, NICHD staff will work with scientists from multiple disciplines and seek input from a broad array of individuals and groups with an interest in the institute's mission. In a series of workshops and meetings beginning in the fall, they will examine 9 themes encompassing the NICHD mission: development, plasticity, cognition, behavior, reproduction, pregnancy and pregnancy outcomes, developmental origins of health and disease, environment and diagnostics and therapeutics.

"The ultimate goal is to set an ambitious agenda that inspires the NICHD, its many partners and the research community to achieve critical scientific goals and meet pressing public health needs," Guttmacher said.

He came to NIH from the University of Vermont, where he directed the department of pediatrics' Vermont Regional Genetics Center and Pregnancy Risk Information Service. He served as medical director of the Vermont Newborn Screening Program, founded Vermont's only pediatric intensive care unit and co-directed the Vermont Cancer Center's Familial Cancer Program. Guttmacher is a member of the Institute of Medicine and a fellow of the American Academy of Pediatrics.

*NIAAA acting director Dr. Kenneth Warren welcomes new council member Dr. Gyongyi Szabo.*

### NIAAA Welcomes Two to Advisory Council

The National Institute on Alcohol Abuse and Alcoholism welcomed two new members to its National Advisory Council on Alcohol Abuse and Alcoholism at its 124th meeting in June.

Dr. Gyongyi Szabo is professor of medicine and associate dean for clinical and translational research and also serves as director of the Hepatology and Liver Center at the University of Massachusetts Medical School. She is an internationally recognized leader in the field of alcohol and hepatology research and has served as a member of the extramural advisory board of NIAAA and the Liver Action Plan and the National Commission for Digestive Diseases for NIDDK.

Dr. Kathleen Grant is a professor of behavioral neurosciences at the Oregon Health Science University. She has extensive experience in the fields of behavioral pharmacology of alcohol, basic science research of addictive behaviors, gender differences in alcoholism risk and genetic and epigenetic assessment of genetically engineered animals.

# digest

**Mapping Study Finds Largest Set of Genes Tied to Major Risk Factor for Heart Disease**

Scanning the genomes of more than 100,000 people from all over the world, scientists report they have discovered the largest set of genes underlying high cholesterol and high triglycerides—the major risk factors for coronary heart disease, the nation's number one killer. Taken together, the gene variants explain between a quarter and a third of the inherited portions of cholesterol and triglyceride measured in the blood. The research, representing scientists from 17 countries, appeared in two papers in the Aug. 5 issue of *Nature*.

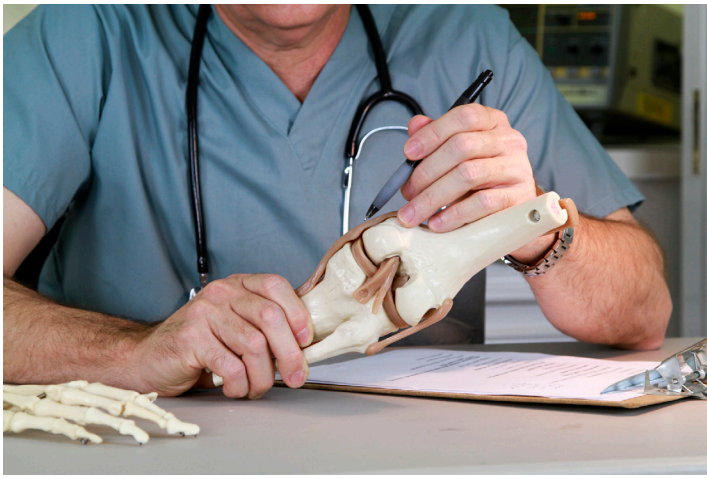
NHLBI is the lead funder of the research, with additional support from NHGRI, NIA and several other NIH components. Genome-wide association studies, or GWAS, analyze DNA across populations to pinpoint hard-to-find genetic hotspots for common diseases that are thought to have many causes, both genetic and environmental. Previous gene-scanning approaches have turned up hints about the nature of inherited heart disease risk. The new results take science well beyond what was previously known, and pinpoint research directions to elucidate the molecular and cellular mechanisms by which genetic variants contribute to disease.

"Genetic studies that survey a wide variety of human populations are a powerful tool for identifying hereditary factors in health and disease," said study co-author and NIH director Dr. Francis Collins. "These results help refine our course for preventing and treating heart disease, a health problem that affects millions of Americans and many more people worldwide."

**Researchers Make Progress Toward Regenerating Tissue to Replace Joints**

A team of NIH-funded researchers successfully regenerated rabbit joints using a cutting-edge process to form the joint inside the body, or *in vivo*.

Regenerative *in vivo* procedures are performed by stimulating previously irreparable organs or tissues to heal themselves. In this study, bioscaffolds, or three-dimensional structures made of biocompatible and biodegradable materials in the shape of the tissue, were infused with a protein to promote growth of the rabbit joint. The experiment demonstrated the feasibility of an approach to growing dissimilar tissues, such as cartilage and bone, derived entirely from the host's own cells. Results of the study appeared in the July 29 issue of *The Lancet*.



*NIBIB-supported research repairing damaged bone and cartilage by recruiting host cells within a living animal could help pave the way for advanced treatment of arthritis and other diseases in humans.*

Regeneration activity relied on the host's supply of cells to the joint, local tissue response and functional stimulation to recreate the entire surface of the joint cartilage together with the bone. The approach sidesteps problems encountered in transplantation of cells grown *ex vivo*, such as immunological rejection, pathogen transmission and potential formation of tumors.

"The potential for *in vivo* tissue regeneration is enormous," says Dr. Christine Kelley, director of NIBIB's Division of Discovery Science and Technology. "[This team's] work with repairing damaged bone and cartilage by recruiting host cells within a living animal could help pave the way for advanced treatment of arthritis and other diseases in humans."

The work was supported by grants from NIBIB and New York State Stem Cell Science.

**Grantees Generate Mature Egg Cells from Early Ovarian Follicles**

Researchers supported by NICHD have for the first time activated mouse egg cells at the earliest stage of their development and brought them to maturity. In a related experiment, the researchers replicated the finding by also bringing human eggs to maturity in the laboratory.

Current infertility treatment techniques stimulate immature eggs so they develop to the stage at which the eggs can be fertilized, but these techniques work only on eggs at a comparatively late stage of development. These later-stage eggs are few in number and much more difficult to recover than the early-stage eggs used by the researchers in this study. Using the new technique, the researchers brought dormant mouse eggs to full maturity within the laboratory. The eggs then were fertilized and transferred into female mice, which carried them to term.

The human eggs were not fertilized. The technique is still in its early stages, has not been sufficiently studied for human use and will require several more years of study.

According to the researchers, one day this technique could be used to treat female infertility, particularly forms of infertility in which the supply of available eggs is diminished or limited. Similarly, the technique could be combined with efforts to bank the ovarian tissue of women in need of cancer therapy that might cause infertility.

The findings appeared online Aug. 4 in the *Proceedings of the National Academy of Sciences*.

# milestones

## Founding Director of NIA, Butler Dies

*By Anne Decker*

The aging world lost a passionate and influential advocate when Dr. Robert N. Butler died of leukemia on July 4 in New York City. He was 83. A gerontologist and psychiatrist, he became NIA's founding director on May 1, 1976.

For half a century, Butler used his intelligence, persuasiveness and personal charm to convince legislators, clinicians and academics that older people could and should have better lives, free of age discrimination and enhanced by effective and available health care.

"Bob Butler was a pioneer who sought to redefine aging, for both individuals and society," said NIA director Dr. Richard Hodes. "He challenged the status quo, looking at what can be achieved in later life, not at what might be lost. The field of aging research—and anyone seeking a better life with age—has lost a best friend."

At NIA, Butler set in place a visionary research endeavor, building a broad program of basic, biomedical, social and behavioral research that remains at the core of NIA's efforts today. He stressed preventive medicine and promoted exercise, a healthy diet and avoiding the adverse effects of tobacco, alcohol and caffeine. He is quoted as saying, "If exercise were a pill, everybody would take it."

In the first 2 years of his tenure at NIA, most of the institute's extramural grants were awarded to studies in biological sciences while a modest number went to studies in social and psychological sciences and a small number to investigative medicine. Butler envisioned greater support in all these areas with the addition of innovative studies on health care and human services delivery.

Butler sounded an early warning about the growing number of people with Alzheimer's disease. He collaborated with university scientists and private citizens in creating the Alzheimer's Association. Along with Dr. Donald Tower, who was then director of what is now NINDS, Butler organized the first national scientific meeting on AD at NIH in 1977 and a subsequent meeting in 1979 to plan the formation of the Alzheimer's Association.

Butler also initiated the "Teaching Nursing Home" program to focus on problems in geriatric care in nursing homes and created the "Geriatric Medicine Academic Award" for career development in geriatric care.

One of his lasting contributions was the formation of NIA. "Dr. Butler was precisely the kind of director the NIA needed during its formative years," said David Chicchirichi, Sr., NIA's first executive director. "His charisma, energy and creativity attracted a great deal of attention throughout the research community as well as the general public."

Within days of his arrival, Butler learned he won a Pulitzer Prize for his book, *Why Survive? Being Old in America*. Jane Shure, NIA's first communications director, remembers Butler's tireless efforts to promote research on aging and the interests of older people.

"He cultivated the press and enlisted them in his campaign to dramatically change people's attitudes toward aging—to abolish ageism, to promote geriatric medicine and to separate aging from disease," she said. "We were on the frontier of social change. It was always exciting and personally rewarding."

Dr. Richard Suzman, director of NIA's Division of Behavioral and Social Research, remembers meeting Butler more than 30 years ago. "He was a soft-spoken, gracious and courtly person, totally devoted to aging research and convinced of the need to integrate behavioral science into the effort," he said, adding that this was a time when social and behavioral sciences were not considered an integral part of biomedical research.

After leaving NIH in 1982, Butler became director of the new department of geriatrics at Mt. Sinai School of Medicine in New York City. He continued his advocacy for older people when he founded the International Longevity Center U.S.A., a non-profit research, policy and education center of longevity and aging with branches in nine other countries.

"Robert Butler was influential in the lives of an untold number of aging researchers and geriatricians. I will continue to be personally grateful to him for his advice to the Donald W. Reynolds Foundation that led to funding two departments of geriatrics—one of which I chaired prior to coming to NIA," said NIA deputy director Dr. Marie Bernard. "He always had time to talk with and advise a younger colleague."

Butler's empathy for older people began early. Born in New York City in 1927, he was raised by his grandparents on a chicken farm in New Jersey where he witnessed the struggle to survive by older people of that era.

He graduated from Columbia College and received his medical degree from Columbia's College of Physicians and Surgeons. After his residency at the University of California, San Francisco, he joined NIMH as a research psychiatrist in 1955. From 1962-1976, he had a similar position at the Washington School of Psychiatry. He served as a warrant officer in the U.S. Maritime Service from 1944-1947 and in the Public Health Service from 1955-1962.

He held faculty appointments at Howard and George Washington University schools of medicine, was a founding fellow of the American Geriatrics Society, helped start the American Association for Geriatric Psychiatry and was chair of the 1995 White House Conference on Aging.

A prolific author, Butler wrote more than 100 articles for professional journals. Three books,

*Aging and Mental Health*, *Sex After Sixty* and *The New Love and Sex After 60* were written with his second wife, Myrna Lewis, who died in 2005. In 2008, *The Longevity Revolution: The Benefits and Challenges of Living a Long Life*, was published.

Butler is survived by three daughters from his first marriage to Diane McLaughlin, a daughter from his marriage to Lewis, and six grandchildren.

## Adler, First *NIH Record* Editor, Mourned

Alexander Adler, 90, who served as founding editor of the *NIH Record*, died June 22.

He started the newsletter in May 1949, when he was a scientific information specialist in the Scientific Reports Branch, Office of the Director, and was editor until February 1950.

Adler had initially come to NIH in 1940 as a laboratory assistant. He had taken a premed curriculum at City College of New York and George Washington University, but also took courses in journalism at American University and in marketing/advertising at New York University.

During World War II, he served on several Army Medical Corps research teams. When the war ended, he returned briefly to NIH before spending 7 years as a pharmaceutical advertising executive.

He returned to NIH in 1957 as the first information officer at the Division of Research Grants (now the Center for Scientific Review). He spent 10 years in that position and later worked for NIH's Division of Physician Manpower and for the Health Resources Administration, from which he retired in 1984.

Upon Adler's retirement, after 36 years of federal service and 32 years in the Public Health Service, a long-time PHS colleague, Lealon E. Martin, noted, "Alex was instrumental in planning, creating and implementing NIH's first general periodical, not a scientific journal but a fine type of science news letter—the *NIH Record*."

Even long after his retirement, Adler kept his NIH ties strong. He served on the board of the NIH Alumni Association and contributed an editorial to the *NIH Record* on the occasion of its 50th anniversary in 1999.

"He loved NIH and it seemed to be fate that his last days were spent at Carriage Hill of Bethesda, a nursing and rehabilitative facility directly across the street from the NIH campus," said his daughter, Alison B. Adler. "Shortly after my father entered Carriage Hill, I wheeled him over to a large picture window where he had a panoramic view of the NIH campus and the Clinical Center. He said to me, 'Those were the best years of my life.'"

Adler's wife, Ruth Gratt Adler, died in 2004. In addition to Alison, of Washington, D.C., he is survived by another daughter, Linda J. Adler of Bethesda, and two grandchildren.

AUGUST 20, 2010
VOL. LXII, NO. 17
nih record

# volunteers

The phone numbers for more information about the studies below are 1-866-444-2214 (TTY 1-866-411-1010) unless otherwise noted.

### Januvia Study

Volunteers are needed for a study examining the immune function in healthy volunteers given short-term treatment of sitagliptin. Investigators wish to determine if and how sitagliptin alters immune function. If you are 18 years or older and healthy, consider participating in this study. All study-related tests are provided at no cost. Compensation is provided. Refer to study 09-DK-0055.

### Asthma Study for Adults 18 to 65

You may be eligible to participate in a clinical research study of the drug DAS 181. The investigational drug is currently being studied as a potential treatment for the flu. The goal of the study is to determine if DAS 181 can safely be given to individuals with well-controlled asthma. The study will last between 6-12 weeks and there are a total of 12 visits required. In order to participate, you must have had well-controlled asthma for at least the past 3 months, not be allergic to milk or milk products and not be taking oral corticosteroids. Compensation is provided. Refer to study 10-I-0085.

### Bronchiectasis Study for Adults 18 to 65

You may be eligible to participate in a clinical research study of the drug DAS 181. The investigational drug is currently being studied as a potential treatment for the flu. The goal of the study is to determine if DAS 181 can safely be given to individuals with bronchiectasis. The study will last between 6-12 weeks and there are a total of 12 visits required. In order to participate, you must have had a chest CT scan within the last 12 months that establishes a diagnosis, not be allergic to milk or milk products and not be taking corticosteroids. Compensation is provided. Refer to study 10-I-0085.

### Macular Degeneration Study

We are seeking patients with wet age-related macular degeneration. The Food and Drug Administration has approved the use of Lucentis for treatment of this ailment. The National Eye Institute is looking for volunteers ages 50 and older with the ailment to participate in a study exploring the different responses to Lucentis. Participants will be required to travel to NIH on an outpatient basis for the initial evaluation and subsequent monthly examinations. Refer to study 08-EI-0103.

## 2010 Bluebird Count Down from Last 2 Years, Virus May Be Culprit

One of NIH's most popular pest control projects—erecting birdhouses to attract mosquito-eating feathered tenants—lost a bit of ground this year, according to project leader Lynn Mueller, NIH landscape architect.

"Well, as expected, this past nesting season was not as good as hoped for," he wrote in a July 29 email to the campus's bird census enthusiasts. "The number of campus-fledged bluebirds was back down to the 2007 number after rising the past 2 years. I guess the West Nile virus is still running its course through [the bird] population. Other songbird fledging numbers were fine and even up for some. Our final count for 2010 [is in the sidebar below]. Thank you all very much."

Mueller said another possibility for the decline "may be that our campus is becoming more urbanized with more open space being returned to wildflower meadow and 'no-mow' zones along the banks of our two creeks. We also slightly increased our acreage of reforestation in 2009.

"Bluebirds enjoy more open areas where they can safely find insects," he continued. "The increase of house wrens and chickadees may indicate this landscape change to more wooded. However, attracting these various species to nest and remain on campus has been a huge success in our eliminating pesticide applications, especially insecticides. No insecticides were sprayed on the campus during 2009 and none are planned to be applied this year."

The novel (and virtually natural) approach to pest management began at NIH in February 2001 with 30 birdhouses, 3 roosting houses and a even a couple of bat houses installed around the Bethesda campus grounds in hopes of attracting a corps of winged workers to keep mosquito populations low.

By the next spring, a crew of volunteer bird counters had been enlisted to keep a record of the project's success. Bluebirds became the best-known residents and the bluebird count grew steadily every year until 2007, when it dropped drastically. This year's total of fledglings dropped similarly.

Over the next few months, Mueller said, he will make adjustments to the birdhouses and their locations in order to improve attractiveness to next year's house hunters.

*A bluebird nest in one of the birdhouses on NIH's Bethesda campus*

PHOTO: MAGGIE BARTLETT

"There are actually two nesting seasons," he explained. "The first begins in April and ends about early June. Some adult birds—possibly young from the previous year's second season—will nest starting about mid-June. Usually all young will have fledged, or flown away, by the end of July. This second nesting season usually has a lower number of nests and fledged young. We'll be ready again next March to hopefully attract more birds to stay and nest on the campus."—**Carla Garnett**

**2010 Feathered Friend Census**

15 bluebirds fledged
39 chickadees
61 house wrens
23 barn swallows (parking garage nests)
9 tree swallows

**History of Bluebirds Fledged**
(since record-keeping began at NIH)

2010 — 15
2009 — 20
2008 — 29
2007 — 14
2006 — 37
2005 — 36
2004 — 31
2003 — 16
2002 — 13